

#CxENERGY 2025

CONFERENCE & EXPO ■ APRIL 28 - MAY 01, 2025 ■ CHARLOTTE, NC

PRELIMINARY CONFERENCE PROGRAM



COMMISSIONING ◀ ENERGY MANAGEMENT ▶ BUILDING TECHNOLOGY

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Join Us at CONFERENCE & EXPO

PROGRAM AT A GLANCE

TIME	MONDAY, APRIL 28	TUESDAY, APRIL 29
7:00 a.m. - 8:00 a.m.	Registration for CxA Workshop & EMP Seminar	
8:00 a.m. - 5:00 p.m.	Commissioning Authority (CxA) Workshop & Exam	
8:00 a.m. - 5:00 p.m.	Energy Management Professional (EMP) Seminar & Exam	
7:30 a.m. - 2:00 p.m.		CxEnergy Open Golf Tournament
5:00 p.m. - 7:00 p.m.		Welcome Reception in the Expo Hall

TIME	WEDNESDAY, APRIL 30	THURSDAY, MAY 1
7:00 a.m. - 8:00 a.m.	Breakfast & Registration	
8:00 a.m. - 9:30 a.m.	Opening Session & Keynote	8:00 a.m. - 11:30 a.m. Concurrent Technical Sessions
9:30 a.m. - 10:15 a.m.	"Meet & Greet" in the Expo Hall	11:30 a.m. - 12:30 p.m. Brown Bag Lunch
10:30 a.m. - 12:40 p.m.	Concurrent Technical Sessions	1:00 p.m. - 2:00 p.m. Tour of NASCAR Hall of Fame
12:40 p.m. - 2:15 p.m.	Lunch & Technology Theater in the Expo Hall	 <p>Breakfast and lunch will be provided for all pre-conference workshops and seminars.</p>
2:15 p.m. - 5:35 p.m.	Concurrent Technical Sessions	
5:35 p.m. - 7:30 p.m.	Reception in the Expo Hall	

CxENERGY OPEN Golf Tournament



The Energy Management Association cordially invites you to join us **Tuesday, April 29**, from **7:30 a.m. to 2:00 p.m.** for the 2025 CxEnergy Open Golf Tournament (scramble format) at the beautiful Rocky River Golf Club.

- **Single Player:** \$245
- **Hole Sponsorship:** \$375 (*multiple opportunities*)
 - Recognition (company name and logo) on conference and tournament marketing collateral

* Note: Rental Clubs available onsite for \$65.

REGISTER AT: www.cxenergy.com/golf

For additional information, contact EMA Headquarters at events@energymgmt.org



Tour of NASCAR Hall of Fame



Thursday, May 1 at 1:00 p.m.

Enjoy a guided tour of the NASCAR Hall of Fame museum, located just half a mile from the conference hotel! The guided portion is 60 minutes and takes you through highlighted exhibits such as the Great Hall, Glory Road, and the Hall of Honor. The tour guide will then introduce hands-on activities available for your participation in the Race Week section. The rest of your experience (can stay until close) is self-guided.

Cost is \$50 per person, space is limited.



PRE-CONFERENCE EDUCATIONAL & CERTIFICATION OPPORTUNITIES



Commissioning Authority Workshop & Exam

Monday, April 28 – Tuesday, April 29
8:00 a.m. – 5:00 p.m., \$1,050

This highly interactive workshop covers both new and existing building commissioning, and includes many group breakout activities where attendees will use project case studies to develop and discuss samples of key commissioning deliverables. The 4-hour, closed-book CxA exam is offered at the end of the second day to prequalified candidates.

** Note: Individuals interested in CxA certification must submit a completed CxA Application 21 days in advance.*

For additional details, please contact us at certification@commissioning.org



Energy Management Professional Seminar & Exam

Monday, April 28 – Tuesday, April 29
8:00 a.m. – 5:00 p.m., \$1,050

This one-and-a-half day EMP Certification seminar reviews the energy management process and how it can be applied. The seminar features 12 hours of actionable instruction covering all relevant energy aspects from codes and standards, and managerial planning, to monitoring project performance and persistence of savings. Exam administered on the final day for approved candidates.

** Note: Individuals interested in EMP certification must submit a completed EMP Application 14 days in advance.*

For additional details, please contact us at certification@energymgmt.org



Keynote Session | April 30, 8:30 - 9:30 a.m. The Fortitude of a Champion

Bobby and Kristin Labonte

A husband-and-wife duo of titled and accomplished professional athletes, Bobby and Kristin Labonte stand shoulder to shoulder in life and in business. In this keynote, Bobby, a NASCAR Hall of Famer, and Kristin, a champion cyclist, will share experiences from throughout their sports and professional careers that highlight resiliency, winning and losing, and getting up after being knocked down. Through these stories, the Labontes will discuss how they developed resilience, courage, confidence, and, above all else, fortitude.

CxEnergy Technology Theater

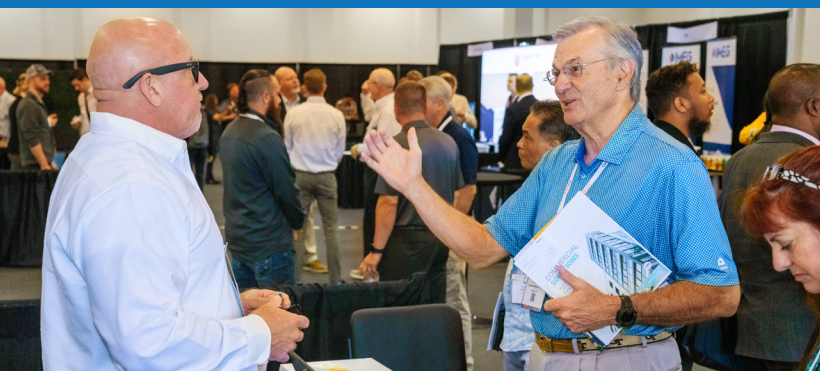
Wednesday, April 30, 12:40-1:40 p.m.

12:40 p.m.

1:00 p.m.

1:20 p.m.

1:40 p.m.



Welcome Reception in the Expo Hall

Tuesday, April 29, 2025

5:00 p.m. – 7:00 p.m.

Enjoy complimentary cocktails and hors d'oeuvres and network with your colleagues while interacting with the latest tools and technologies for commissioning, TAB, and energy management.

7:00 a.m. Registration Open | 7:00 a.m. - 8:00 a.m. Breakfast | 8:00 a.m. - 9:30 a.m. Opening Session & Keynote

Mecklenburg Ballroom

Carolina A

With Great Power Comes Great Redundancy: Lessons Learned from Commissioning New Stuff in Existing Data Centers

Mark Gelfo, P.E., CxA, EMP, LEED Fellow, & Jay Martin, P.E., CxA, CEM, LEED AP, TLC Engineering Solutions

10:30 a.m. -

11:30 a.m.

Michael Umscheid, DPR
99.99% reliability is not enough for data centers facing ever-increasing demands for additional capacity, reliability, and efficiency while replacing older electrical systems with newer, more reliable equipment. We will present commissioning case studies of recent data centers that replaced and added key components of their electrical infrastructure while maintaining 100% uptime.

Building Decarbonization - Key Issues and Solutions for Occupancy, Wellness and Sustainability

Al LaPera, CxA, EMP, LEED AP, Kimley-Horn Associates Sarah Maston, Colliers Project Leaders

This session provides designers with information about the key issues of decarbonizing buildings and specific steps to be taken to reduce greenhouse gas emissions from the building industry. It will include recent research on buildings and embodied carbon (EC), focusing on increasing sustainability, and demonstrate how engineers, architects, and owners can leverage their roles and the available tools to reduce the EC content of their buildings.

Case Study: Commissioning a Chip Manufacturing Plant

Derek De Jesus, CxA, Derek De Jesus, LLC Earl Laflamme, CxA, Catalyst Commissioning Mike Lewis, P.E., WolfSpeed

11:40 a.m. -

12:40 p.m.

This presentation will focus on a project at a chip manufacturing plant outside of Charlotte, NC. Members of the project team will discuss the quality and Cx process for this fast-track, multi-phase DOE-funded green field site that used the IPD approach and owner-furnished equipment. They will highlight challenges that occur when teams are brought in late to the IPD, as well as in-flight modifications to the plan.

Delivering the Next Generation of Cx Services via EMIS-based Automated Functional Testing

Armando Casillas, Lawrence Berkeley National Laboratory

This presentation will highlight work done by LBNL and its industry partner to develop and deploy automated functional performance tests via energy management and information systems (EMIS) software, including: 1) descriptions of open-loop component tests and closed-loop system tests; and 2) group tests aimed at screening for problematic equipment and individual tests for isolating root-causes.

12:40 p.m. - 2:15 p.m. Lunch & Technology Theater in Expo Hall

Building Owner Commissioning Process (BOCx)

James Magee, CxA, EMP, MACx Consulting

2:15 p.m. -

3:15 p.m.

No singular solution meets the needs for every building owner. Our quest to demystify the vagaries of building systems Cx begins with organizing and consolidating references to meet the specific high-speed daily schedules of our clients. Building Owner Cx presents a plan to provide lasting understanding of owner and owner vendor roles and responsibilities.

The Challenge of Commissioning Aquatic Centers

Jared Higgins, P.E., CxA, CEM, Parkhill

Commissioning building systems is often complex, and some facilities provide greater opportunities than others. Aquatic centers contain specialized equipment that requires coordination with multiple building trades. Integrating commissioning into the project is critical for project success and should be included throughout all phases of the design and construction.

Case Study: Mission-Critical Cx - Streamlining Airport Projects with Visual Cx Tools

Thomas Jarloev, CxPlanner

3:25 p.m. -

4:25 p.m.

Copenhagen Airports previously managed projects with Excel sheets, leading to issues and delays. A new commissioning process was developed to improve projects and quality. This Cx process now supports over 100 projects per year, valued at over \$150M, using digital tools like Gantt charts and Kanban boards. This presentation shows how these tools are used to enhance collaboration.

Leveraging "Golden Opportunities" – UGA Energy Utility Master Planning Case Study

Jason Perry, CEM, University of Georgia

Ben Dombrowski, Jacobs

This presentation will explore a unique opportunity at the University of Georgia and the "golden opportunities" at the alignment of campus goals. We will look at conditions that drove scenario creation, how nexus points were identified, and the creation of an actionable roadmap to modernize the campus thermal utility infrastructure.

9:30 a.m. - 10:15 a.m. Meet & Greet with Sponsors & Exhibitors - Expo Hall

Carolina C

Carolina DE

Streamline Data Collection for Energy Audits and Condition Assessments

*Hardik Miyani, P.E., CEM, LEED GA, Baumann Consulting
Jacob Terry, CxAlloy*

This session explores different techniques to more efficiently collect data for energy audits, condition assessments, and other commissioning-adjacent projects. Attendees will learn how to leverage software tools to increase efficiency and reduce errors when gathering data based on lessons learned (some painful) from real projects.

10:30 a.m. -
11:30 a.m.

Building Enclosure Resiliency Trends, Current Conditions, and Future Planning

*Jason O'Boyle, P.E.
John Runkle, Pinchin, LLC*

Climate change is bringing more extreme weather events throughout the built environment. This presentation explores the principles and practices essential for enhancing the durability and performance of building envelopes, educates the audience

Importance of AI in the Utility and Facility Management Industries

*Robert Knoedler, P.E., CxA, EMP, Hanson Professional Services
Kevin Scarborough, P.E., LEED AP, Siemens Smart Infrastructure*

The world's appetite for energy continues to grow, with estimates of a 60% increase above current demands by 2050. With buildings and facilities accounting for approximately 40% of energy consumption, concerted efforts will be required to reduce demand and increase efficiency. This panel will discuss the various ways artificial intelligence is being employed to help utilities and facility managers improve grid performance and ensure optimum performance of facility systems.

11:40 a.m. -
12:40 p.m.

Looking to the Future: Commissioning Beyond 2025

*Amy Pastor, P.E., CxA, EXP
Sarah Maston, P.E., Colliers Project Leaders*

This panel discussion features female leaders in sustainability and commissioning. Through their decades of experience and knowledge of future regulations, certifications, and goals for decarbonization, the panel will look to the future of commissioning and what the industry may expect moving forward.

12:40 p.m. - 2:15 p.m. Lunch & Technology Theater in Expo Hall

A Proactive Approach to Functional Testing: The Power of PVTs

*Alex Kozinets, Facility Grid
Stephen Seller, P.Eng., MIT*

Discover the power of Pre-Verification Tests (PVTs) in preventing common pitfalls and ensuring project success. PVTs align teams, buy scope, and reduce finger-pointing by verifying system readiness before Functional Testing. Hear real-world stories from MIT on how PVTs catch issues early, preventing costly rework and failed tests. Join us to discuss how PVTs are transforming construction.

2:15 p.m. -
3:15 p.m.

Test, Adjust & Balance: Lessons Learned for Engineers, Cx & Energy Providers

Brian Venn, TBE, CxA, Mechanical Testing, an Integra Company

This presentation highlights for engineers, Cx and energy providers common system and procedural issues that TAB providers discover in the course of completing their work. Learning how to collaborate with the TAB provider to overcome these challenges benefits the design professional, construction team, commissioning provider, and ultimately the building owner.

Specifying Duct Leakage - Percent Leakage vs Leakage Class

*Gaylon Richardson, TBE, CxA, Engineered Air Balance Co., Inc.
Mike Kelly, TBE, CxA, American Testing, Inc.*

Energy efficiency is a main concern for HVAC systems relating to duct system leakage. The concerning question is how the engineer specifies duct leakage in specifications. This presentation will discuss leakage standards and considerations for energy losses.

3:25 p.m. -
4:25 p.m.

How to Successfully Implement the Monitoring-Based Commissioning (MBCx) Process in New and Existing Building Construction

*Steve Vang, CxA; Tim Gilbert, P.E., CxA, EMP;
& Mike Lodge, Impact Cx*

Monitoring-Based Commissioning (MBCx) requirements are becoming more prevalent in buildings as AI workload increases, buildings become more sophisticated, and 2021 IECC codes and standards are adopted. However, incorporating the MBCx process can be a challenge. This presentation will focus on the MBCx process, how to successfully deliver MBCx requirements in all project phases, and the role that Fault Detection & Diagnostics play in a successful MBCx program.

Mecklenburg Ballroom

Carolina A

Charlotte Airport Expansion Commissioning: Cx Between Flights

Wade Conlan, P.E., CxA, LEED AP, & Christa Barsanti, EI, Hanson Professional Services

4:35 p.m. - 5:35 p.m.

Commissioning expansion projects can be difficult to work around the operations of the existing facility, which only gets heightened when the facility is an active airport and the project is a 190,000 square foot expansion of an existing terminal. This session will discuss the scheduling issues for testing certain systems, such as emergency power, baggage handling, and air handling units serving active and renovation spaces.

North Carolina's Implementation of Carbon Reduction Goals at the NC Utilities Commission

Ethan Blumenthal, North Carolina Sustainable Energy Association

Hannah Elliott, Renu Energy Solutions

Stephanie Jett, Duke Energy

Aaron Tauber, City of Charlotte

This presentation will discuss the ongoing implementation of House Bill 951 and its carbon reduction mandates for the electricity sector, along with various customer programs currently offered by Duke Energy.

7:00 a.m. Registration Open | 7:00 a.m. - 8:00 a.m. Breakfast

Commissioning Charlotte's First All-Electric Firehouse: Charlotte Firehouse No. 30

Wally Ray, P.E., LEED AP, & Will Page, TLC Engineering Solutions

Heather Bolick, City of Charlotte

Andrew Shuster, BPL Enclosure

8:00 a.m. - 9:00 a.m.

Presenters will discuss the design review and commissioning of a new two-story fire house. Scheduled for April 2025 completion, this fire house will be a LEED certified space and is among the first all-electric, zero carbon facilities for the City of Charlotte.

Distributed Generation, Energy Storage and Interoperability Vehicle to Grid (V2G) Technology and Electric Vehicle (EV) Charging Systems Cx

Mark Siira & Wayne Stec, IEEE Standards Committee 21

Electric vehicle fast-charging plazas are complex integrating a wide variety of digital technologies and hardware/software, as well as grid interfaces requiring significant operational coordination. These plazas need sophisticated energy management systems to make a seamless and safe interconnection to the electric grid. This presentation will delve into technical design development and commissioning process details of this emerging mainstream technology.

The Essential Role of Commissioning in Complex Technology Systems

Noelle Thornton, P.E., CxA, BCxP, & Brett Farbstein, LEED AP, CannonDesign

9:15 a.m. - 10:15 a.m.

Commissioning technology systems is an important and often overlooked process. It is not mandated in any codes or standards. However, many buildings have complicated systems that can benefit from the commissioning process. In this presentation, we will discuss commissioning of audio/visual systems, public address systems, and access control systems, as well as when commissioning may be an important service.

Sustainable Design + High-Performance Commissioning = Zero at the Meter (Achieving True Net Zero)

Charles Jackson, P.E., CxA, CEM, LEED AP, CMTA, Inc.

Brian Atkinson, CxA, Well AP,

Sustainable Building Partners

It takes the entire project team to truly achieve net-zero for a facility and to meet the widely accepted and brand new Zero Emissions Standard developed by the Dept of Energy and ASHRAE. As the commissioning provider, we play a large part in the process. This presentation will highlight successful examples of net-zero realization and the challenges encountered along the way.

Unleashing the Power of Resilient Retrofits

Stevan Vinci, CET, LEED Fellow, & Jamie McKay, P.E., LEED Fellow, Glumac

10:30 a.m. - 11:30 a.m.

Dive into the high-performance building revolution with us as we untap the potential of existing buildings. These structures, often overlooked in the new construction race for energy efficiency, hold the key to reducing our carbon footprint. Whether you are pursuing a building certification or planning a deep energy retrofit, our session will equip you with a holistic approach to asset renewal.

LBNL's Existing Building Commissioning Catalyst: Facilitating Increased Market Uptake of Existing Building Commissioning Services

Joshua Kace, Lawrence Berkeley National Laboratory

LBNL's EBCx Catalyst has been working with building owners, jurisdictions, utilities, and commissioning providers to facilitate increased market uptake of existing building commissioning services. This session will talk through efforts across the US where the EBCx Catalyst looks to drive increased commissioning activities in support of improved efficiency and cost-effective utility cost reductions.

11:30 a.m. - 12:30 p.m. Brown Bag Lunch

Carolina C

Case Study: Implementing Automated BAS Cx in Schools and Campuses

Saheel Chandrani, PingCx

A school district facing aging infrastructure and expansion plans implemented a district-wide Building Management System to enable real-time testing & validation, standardized commissioning processes, and automated documentation across multiple buildings. Results showed 50% faster completion time, reduced labor costs, and comprehensive system verification, providing a smooth handover for new school construction projects.

4:35 p.m. -
5:35 p.m.

Carolina DE

Who Is My Client and Where Does My Responsibility Land?

Chris S. Smith, P.E., CxA, EMP, LEED AP, & Bill Hardiman, P.E., CxA, Jacobs

The commissioning process can be applied to many types of projects and is often contracted through a variety of methods. Commissioning providers are called upon to navigate multiple, and often complicated, relationships. While navigating projects, the commissioning provider can be faced with difficult situations that call into question the path they should take in executing their duties.

5:35 p.m. - 7:30 p.m. Grand Reception in the Expo Hall

Creative BECx Protocols, Mock-up Testing and Lessons Learned

*Stephen Seller, P.Eng., BECxP+BE, Massachusetts Institute of Technology
Jeffrey Ng, AIA, LEED AP, Intertek*

This presentation will include BECx lessons learned from projects and a discussion of mock-up testing. Presenters will discuss unconventional test methods for one-of-a-kind components, and samples of unique test strategies developed to confirm BECx components when field conflicts occur. Mock-up testing is an invaluable tool that allows onsite pre-testing before components are installed on the main buildings.

8:00 a.m. -
9:00 a.m.

Case Study: Collaboration Throughout the TAB Process on a Performance Art Center

Alvin Beddingfield, Jr., TBE, Engineered Air Balance Co., Inc.

This informational session will focus on the obstacles encountered during the construction and TAB process of a visual performance art center and administration building. We will discuss challenges associated with the TAB process on a non-typical building designed with numerous elevation changes and specialty finishes and highlight the strategies we employed to overcome them.

Cracking the Code: Tackling the Toughest Challenges in HVAC Flow Measurement

*Al LaPera, CxA, EMP, LEED AP, Kimley-Horn Associates
Eugene Sollog, ONICON*

Flow measurement is essential for optimizing HVAC systems, but industry professionals often face challenges that hinder efficiency and performance. This panel discussion will explore common issues faced in the field, share insights on overcoming them, and offer practical solutions to enhance flow measurement practices in HVAC systems.

9:15 a.m. -
10:15 a.m.

Maximizing Impact: How AI Frees Commissioning Providers to Focus on the Highest Value Tasks

Matthew Cooper, P.E., CxA, & Chris Purdie, Group14 Engineering

Commissioning engineers make daily decisions on how to maximize the value we provide to a project within limited time and resources. This session will discuss how AI allows engineers to quickly access the critical details we need to deliver value.

What is the Role of Sustainability in Your Data Center?

Sean Butler, CxA, CAP, BranchPattern

On the surface, the phrase "sustainable data center" appears to be an oxymoron. Data centers are known to be massive energy consumers. In fact, data centers are estimated to account for 10% of all energy consumption in the United States by 2026. We will discuss the role of retro commissioning and ongoing commissioning in a data center to reduce energy consumption and promote sustainable operations.

10:30 a.m. -
11:30 a.m.

Training 101: The Basics for Establishing a Project's Training Program

John Anthony Hitsos, P.E., CxA, Jacobs

To ensure a new facility's equipment is properly operated, utilized, and maintained, an organized and well-planned training program is required. Although a primary function of the contractor and vendor, it often falls to the CxA to establish, monitor, and document the training program. Creating a training program begins with design specs and follows through test and documentation completion.

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10 YEARS Catalyst Commissioning Group



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The **Associated Air Balance Council (AABC)** is dedicated to the advancement of independent, third-party testing and balancing. The association's mission is to certify highly qualified, independent test and balance agencies, and their personnel.



The **AABC Commissioning Group (ACG)** is dedicated to the advancement of independent, third-party commissioning professionals. ACG strives to promote a better understanding of the commissioning process and to educate, train, and certify qualified individuals.



The **Energy Management Association (EMA)** is dedicated to advancing the quality of energy management services for the benefit of the building owner. EMA is committed to the certification and training of Energy Management Professionals (EMPs).